BIOWIN

Why BioWin?

BioWin wastewater process simulation software ties together biological, chemical, and physical process models to provide insight into the whole plant. BioWin simulations help engineers and operators make decisions that reduce capital and operating costs and ensure treatment objectives are met. BioWin has been a recognized leader in the simulation field for over 25 years.

Who Uses BioWin?

BioWin is used around the world by:

- Consulting engineers
- Infrastructure owners (e.g. cities, regional municipalities, water authorities)
- Equipment manufacturers / suppliers
- Wastewater treatment plant operations companies
- Academic institutions

What is BioWin Used For?

BioWin is used to:

- Select optimal treatment processes with minimal capital investment
- Explore strategies for reducing energy consumption and operating costs
- Evaluate expansion options for existing treatment plants
- Make daily decisions about plant operation
- Teach students and operators fundamental wastewater treatment concepts
- Build model extensions and conduct research into emerging technologies
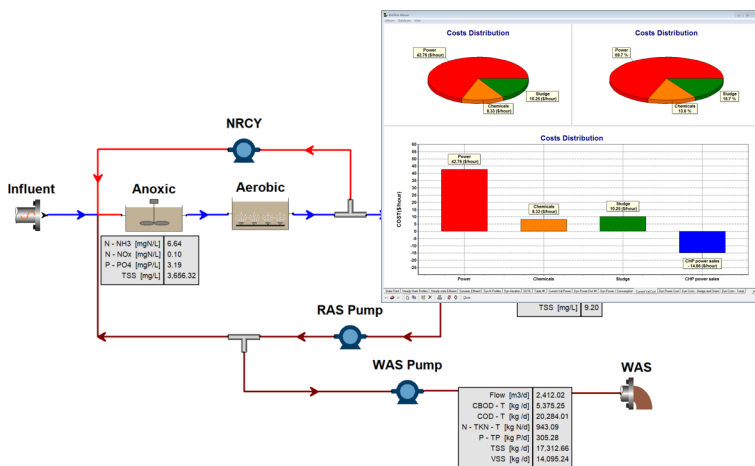
THE ENVIROSIM TEAM
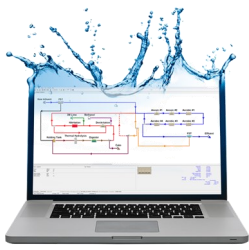
BioWin Key Features

- Integrated activated sludge / anaerobic digestion model enables whole-plant modeling from influent to effluent
- Most accurate and intensively researched biological nutrient removal model reduces required calibration effort
- State of the art chemical phosphorus removal model allowing for simultaneous use of ferrous, ferric, and aluminum metal salts on a single flowsheet
- Chemically enhanced primary treatment modeling
- Sulfur modeling including sulfate oxidizing/reducing bacteria, hydrogen sulfide stripping, and iron sulfide precipitation
- Industrial compound modeling with inhibition kinetics and potential simultaneous biodegradation and stripping removal mechanisms
- Modeling of multiple phosphorus recovery precipitates including struvite, brushite, and vivianite
- Cellulose tracking and recovery

- Modeling of anaerobic ammonia oxidizing bacteria for investigation of side- and main-stream deammonification strategies
- Calculation of blower power requirements accounting for factors such as inlet air temperature and relative humidity and pressure losses in the air delivery system
- Ability to explore onsite power generation and heat recovery via CHP
- Comprehensive OPEX calculations including varying daily/seasonal electricity tariff rates
- User-friendly flowsheet drawing tools (undo feature, element copy/paste, element alignment)
- Automatic report generation in both Word and Excel formats